



FACE Program Fact Sheet

Fatality Assessment and Control Evaluation

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Utility Worker Asphyxiated When his Safety Rope Became Entangled in a Revolving Turbine Shaft

BACKGROUND

The Wisconsin Fatality Assessment and Control Evaluation (FACE) Program received reports of 102 occupational fatalities that occurred in 2000. One of those occurred when a lineman at a hydroelectric plant became entangled in a revolving turbine shaft.

This fact sheet describes the incident and requests that safety professionals and utility companies bring the listed recommendations to the attention of employees who work near turbines.

THE INCIDENT

The 34 year-old victim was employed as a lineman for the city's hydroelectric utility. On the day of the incident, he was helping to repair a hydroelectric turbine, a duty outside of his regular job tasks. He and a co-worker were standing in the enclosed, concrete flume that carried river water to the turbine. (A flume is a channel for conveying water.) The victim wore a fall protection harness, attached to a rope held by a 2nd co-worker standing on the platform above the flume. Knee-high water flowed through the flume, causing the turbine's 4 1/4-inch diameter shaft to rotate about 20 rpm.

The victim apparently slipped while he was repairing the turbine and fell toward the spinning shaft. His safety rope got caught on a shaft coupling, and his harness was pulled tight to the shaft. His body stopped the rotation of the turbine shaft. The co-worker cut the rope and called for help. The co-workers secured the generator wheel so the victim could be cut loose without the wheel restarting. He was transported to the hospital, where he was pronounced dead.



Photo of turbine with shaft at top

RECOMMENDATIONS

To prevent similar occurrences, employers should:

- **install a locking brake to stop the rotation of turbines when maintenance and repair is necessary.**
- **develop and implement an energy control (lockout/tagout) program for all activities that could result in a release of hazardous energy.**
- **train workers in the recognition and avoidance of unsafe conditions before they are assigned tasks outside their normal duties.**

The Wisconsin Department of Health and Family Services, in agreement with the National Institute for Occupational Safety and Health (NIOSH) conducts research on occupational fatalities. The Fatality Assessment and Control Evaluation (FACE) Program focuses on identifying factors that increase the risk of work-related fatal injuries. The Wisconsin FACE Program helps in the development and use of improved safety measures for preventing fatal work injuries.

PLEASE POST

FACE information is produced and distributed to provide current, relevant education on methods to prevent severe work-related injuries.

If you have comments or questions, please call the FACE Project at 608/266-7298, or write:

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